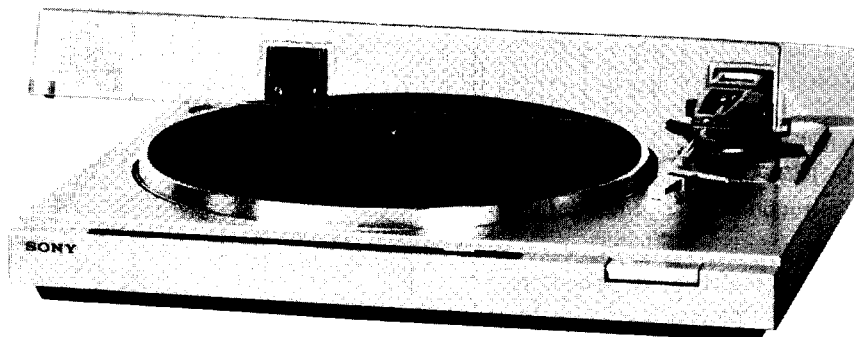


PS-LX205

SERVICE MANUAL

This model is the system section of the SEN-205.

*US Model
Canadian Model
AEP Model
UK Model
E Model*



SPECIFICATIONS

Turntable

Platter	30 cm (12 in.), aluminium-alloy diecast
Motor	DC servo motor
Drive system	Belt-drive
Speed	33 $\frac{1}{3}$ rpm, 45 rpm
Wow and flutter	0.045% * (WRMS) $\pm 0.06\%$ (DIN)
Signal-to-noise ratio	70 dB (DIN-B)
Automatic system	Return, reject

Tonearm

Type	Dynamic balanced
Pivot-to-stylus length	216.5 mm (8 $\frac{1}{2}$ in.)
Overhang	16.5 mm ($\frac{21}{32}$ in.)
Tracking error	+3°, -1°


Cartridge VL-42G

type	Moving magnet type
Frequency response	20 Hz to 20 kHz
Channel separation	16 dB at 1 kHz
Load impedance	50 - 100 kilohms
Tracking force	2.0 g
Stylus	Sony ND-142G (0.6 mil diamond)


General

Dimensions	Approx. 430 x 110 x 360 mm (w/h/d) (17 x 4 $\frac{3}{8}$ x 14 inches) incl. projecting parts and controls
Weight	Approx. 3.5 kg (7 lb 12 oz) net

ATTENTION AU COMPOSANT AYANT RAPPORT A LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.



STEREO TURNTABLE SYSTEM
SONY®



SAFETY CHECK-OUT (US Model)

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

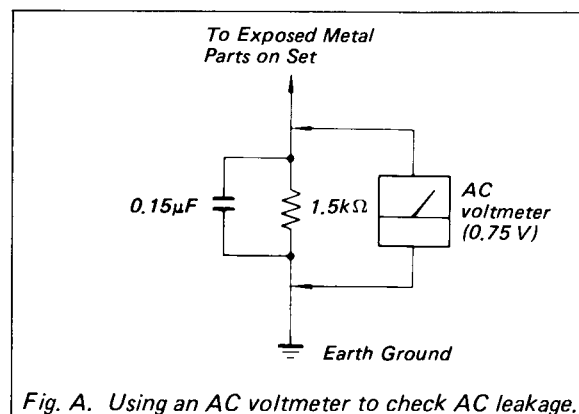
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

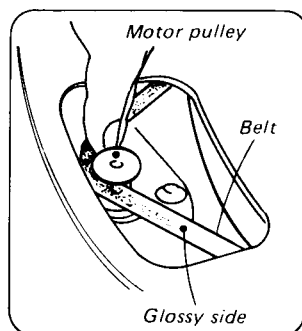
1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)



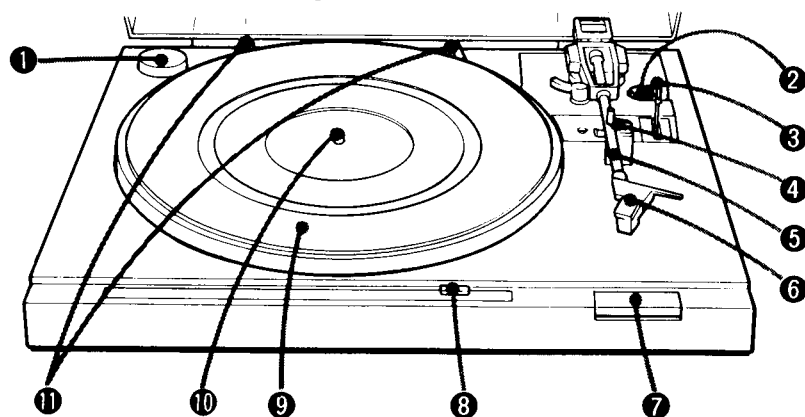
CAUTION ON INSTALLING BELT

When installing belt, glossy should be faced outside.



SECTION 1 OUTLINE

FUNCTION OF CONTROLS



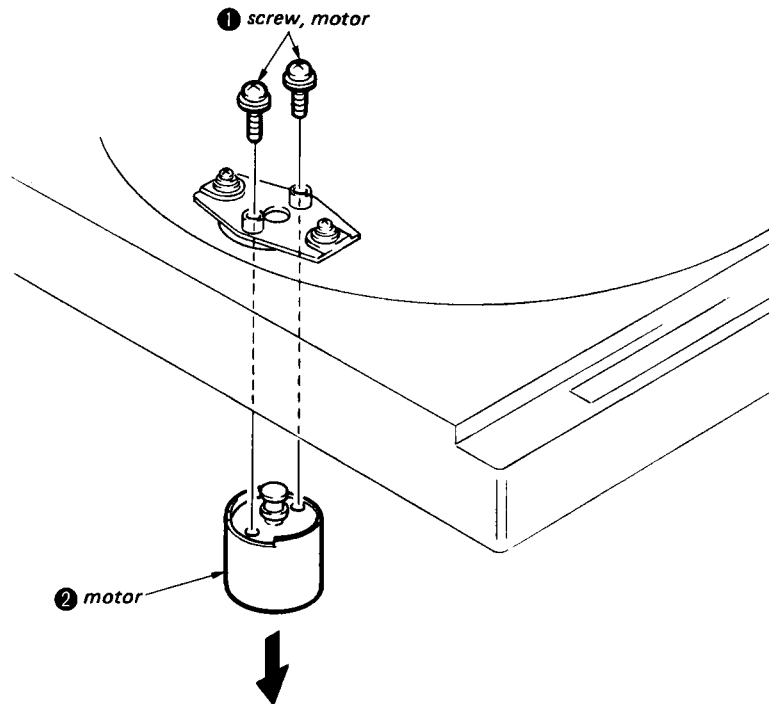
- 1 45-rpm adaptor
- 2 ANTI-SKATING compensator: See page 11.
- 3 $\nabla \nabla$ (cueing lever): Use to lift and lower the tonearm.
- 4 Arm rest
- 5 Tonearm
- 6 Cartridge
- 7 REJECT button: To stop during play, press this button.
- 8 SPEED selector: For 45-rpm record, depress the selector. For 33 1/3-rpm record, press it again.
- 9 Rubber mat
- 10 Center spindle
- 11 Disc centering guides

SECTION 2 DISASSEMBLY

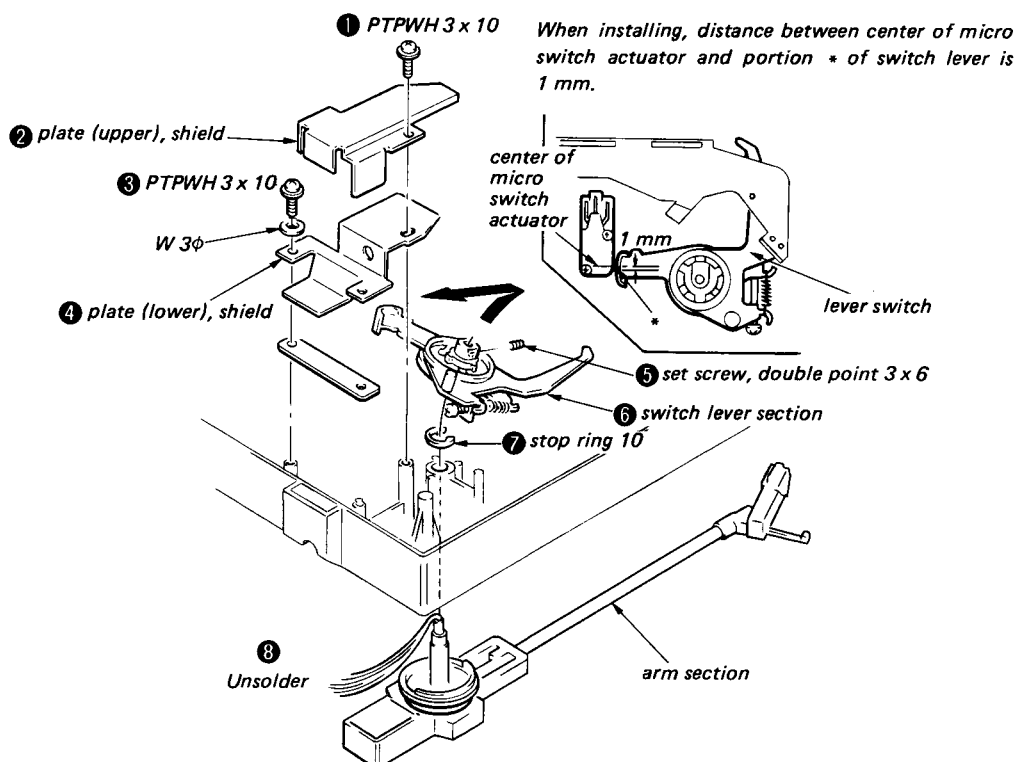
Note: Follow the disassembly procedure in the numerical order given.

REMOVE BOTTOM PLATE

MOTOR REMOVAL

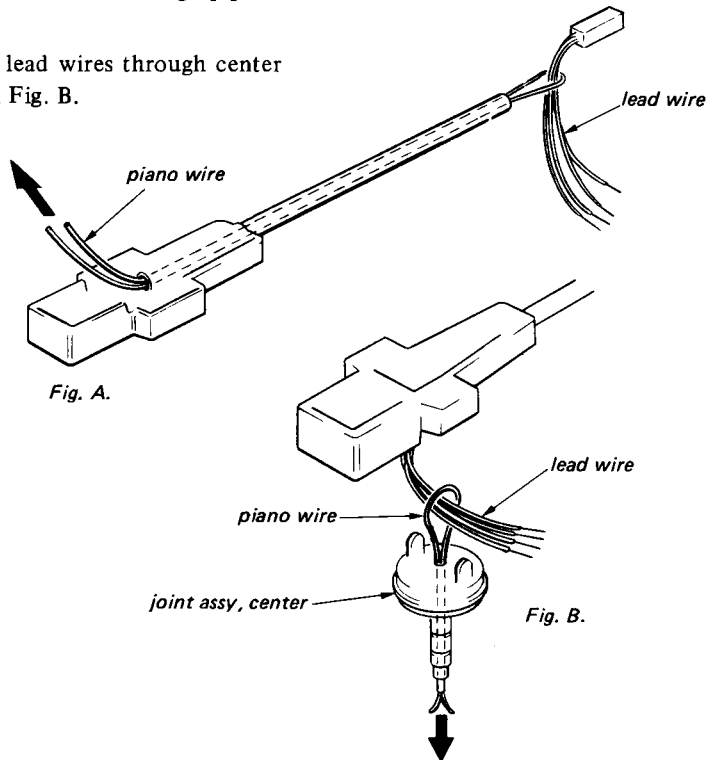


ARM SECTION REMOVAL

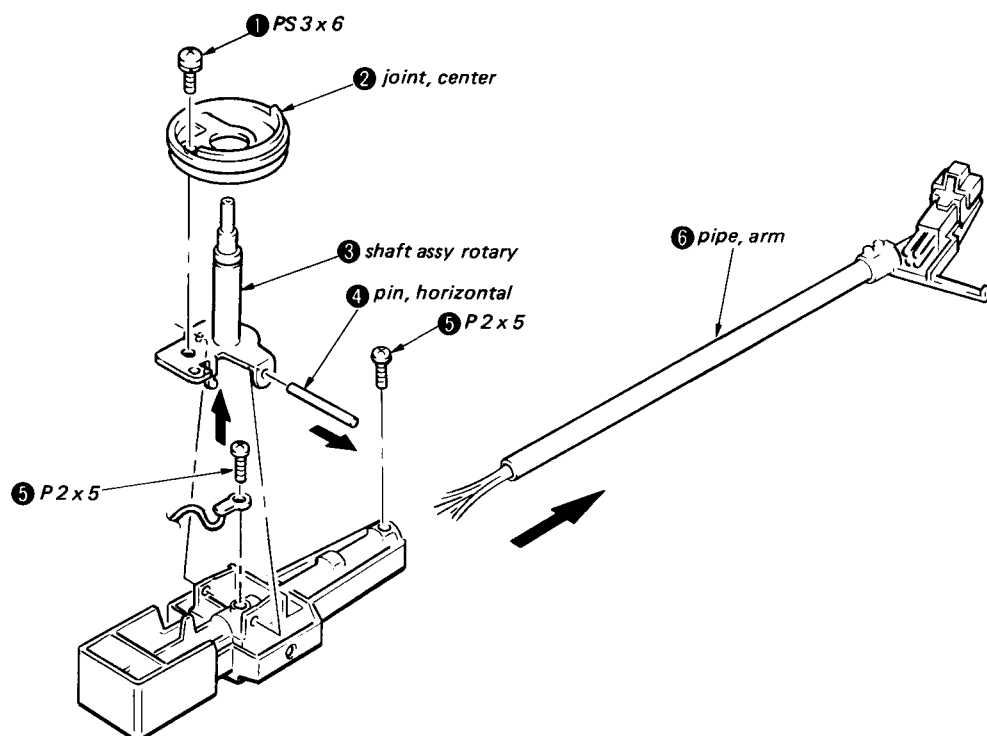


LEAD WIRE INSTALLATION

- 1 Pass piano wire with lead wires through pipe as shown in Fig. A.
- 2 Pass piano wire with lead wires through center joint assy as shown in Fig. B.



ARM PIPE REMOVAL



SECTION 3 ADJUSTMENTS

Speed Adjustment (Using a stroboscope board)

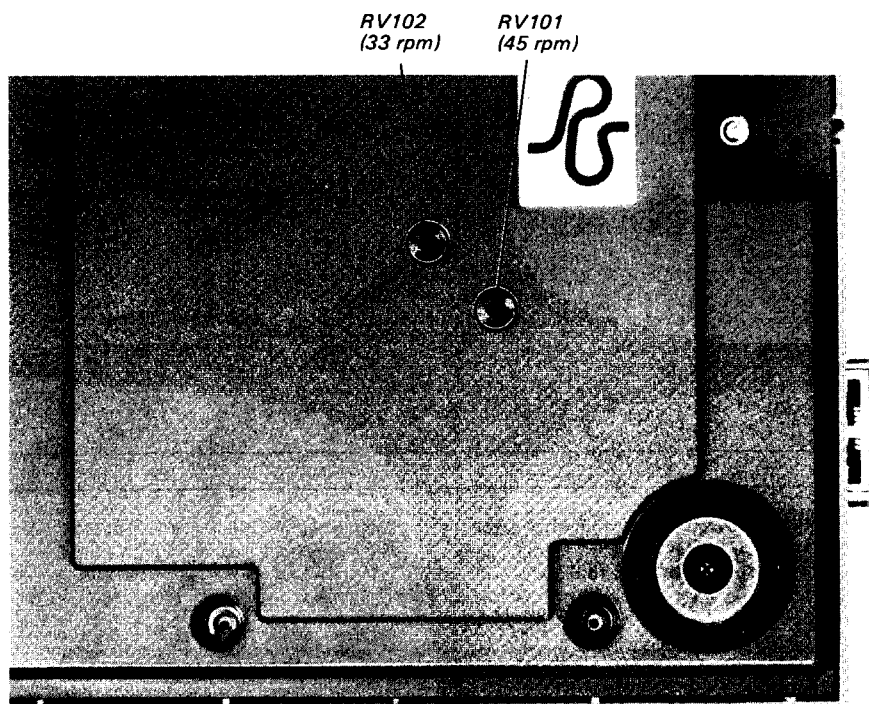
Note: Be sure to perform 45 rpm adjustment before 33 rpm.

1. Put a stroboscope board on the mat.
2. Set the SPEED switch to 45.
Depress the lifter knob to make a lift-up mode and move the arm on most outer-groove of a record.
Adjust RV102 so that the stripped pattern of stroboscope board is stationary.
3. Set the SPEED switch to 33.
Adjust RV101 in the same way.

(Using a test record)

Note: Be sure to perform 45 rpm adjustment before 33 rpm.

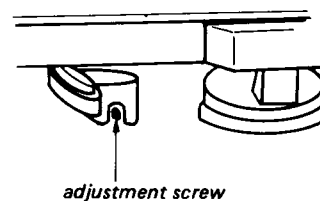
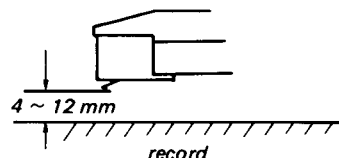
1. Put a test record (YFSC-16) on the mat.
2. Move the arm on a-2 (3 kHz) section and trace it.
3. Adjust RV102 so that the frequency is 4038 – 4062 Hz.
4. Set the SPEED switch to 33.
Adjust RV101 so that the frequency is 2991 – 3009 Hz.



Stylus Height Adjustment

1. Put a test record (YFSC-16) or a record on the mat.
2. Depress the lifter knob to make a lifter-up mode and move the arm on most outer-groove of a record. Confirm that the stylus height from a record is within specification. If not, turn the adjustment screw.
3. Move the arm on most inner-groove of a record and confirm that the stylus height from a record is within specification. If not, turn the adjustment screw and repeat steps 2 and 3.

Specification: 4 ~ 12 mm

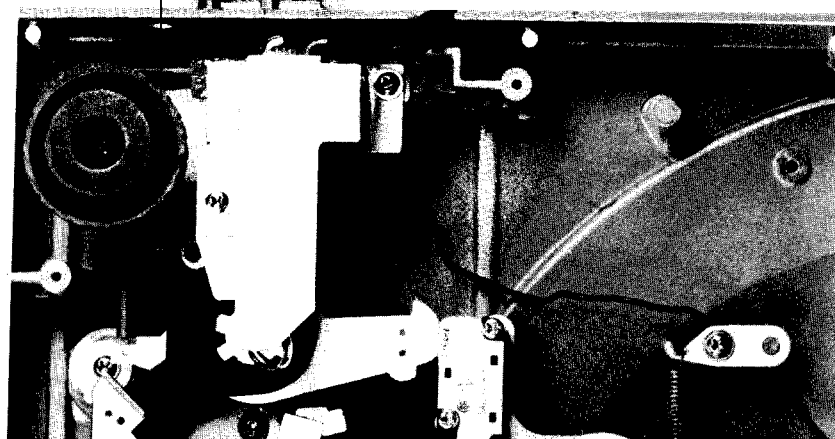


Automatic Return Position Adjustment

1. Put a test record (YFSC-16) on the mat.
2. Set the SPEED switch to 33 and move the tonearm on a return check groove.
3. Turn the adjustment screw so that the tonearm starts to return at count of 4 - 10.

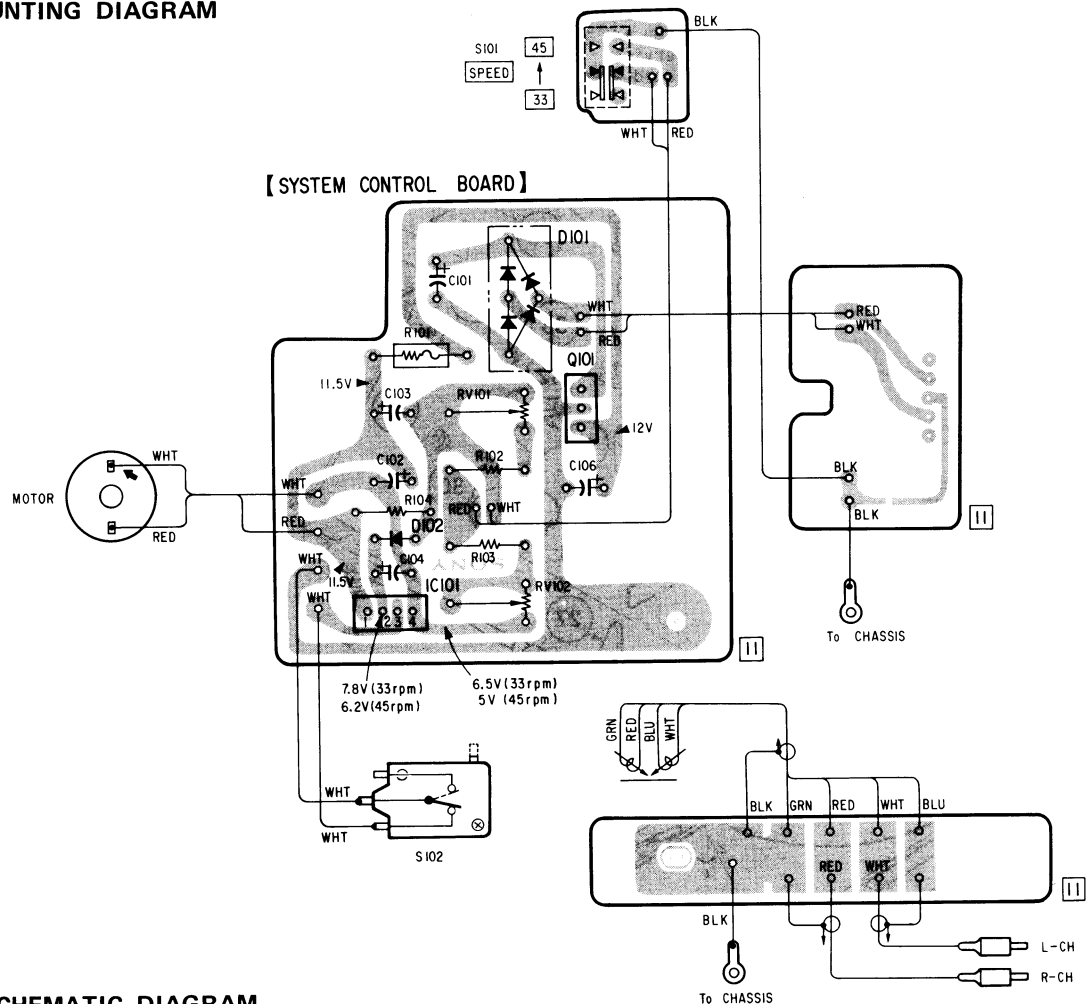
adjustment screw

count increase count decrease

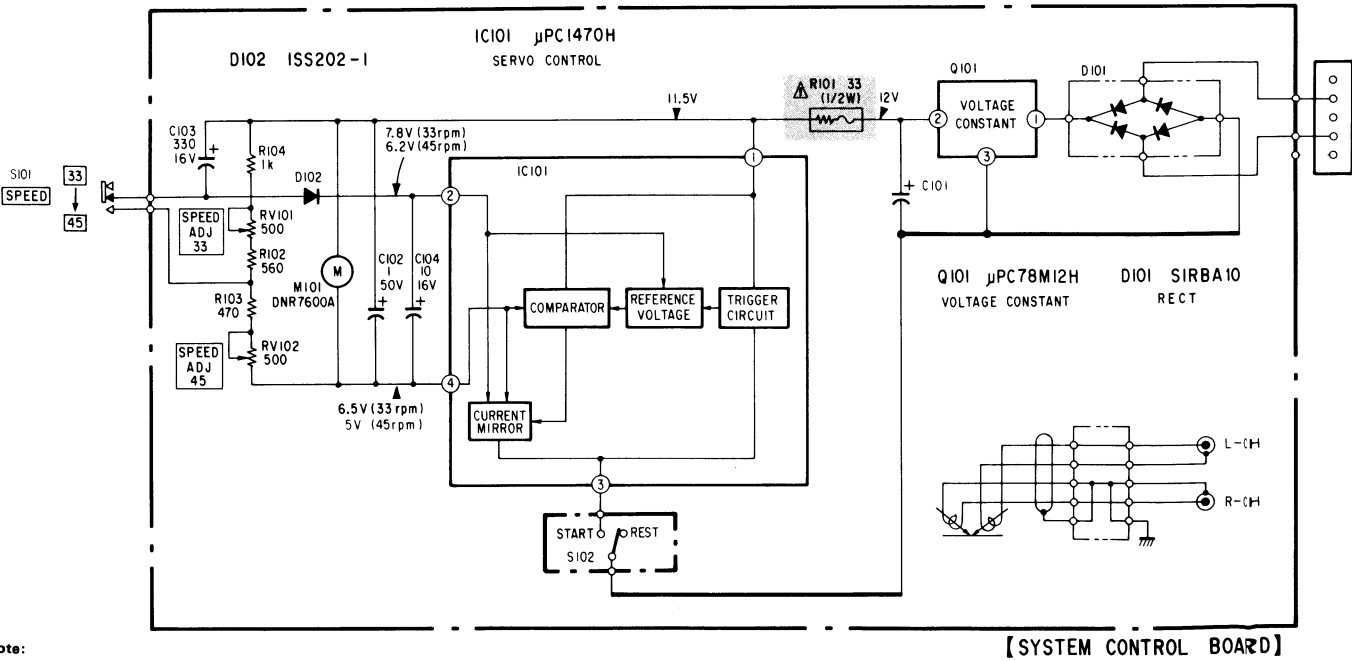


SECTION 4 DIAGRAMS

4-1. MOUNTING DIAGRAM



4-2. SCHEMATIC DIAGRAM



Note:

- All capacitors are in μ F unless otherwise noted. pF: μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}$ W or less unless otherwise specified.
- \square : fusible resistor.
- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM (50 k Ω /V).
- Voltage variations may be noted due to normal production tolerances.
- Switches:

Ref. No.	Switch	Position
S101	SPEED	33
S102	START/REST	REST

Note: The components identified by shading and mark Δ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

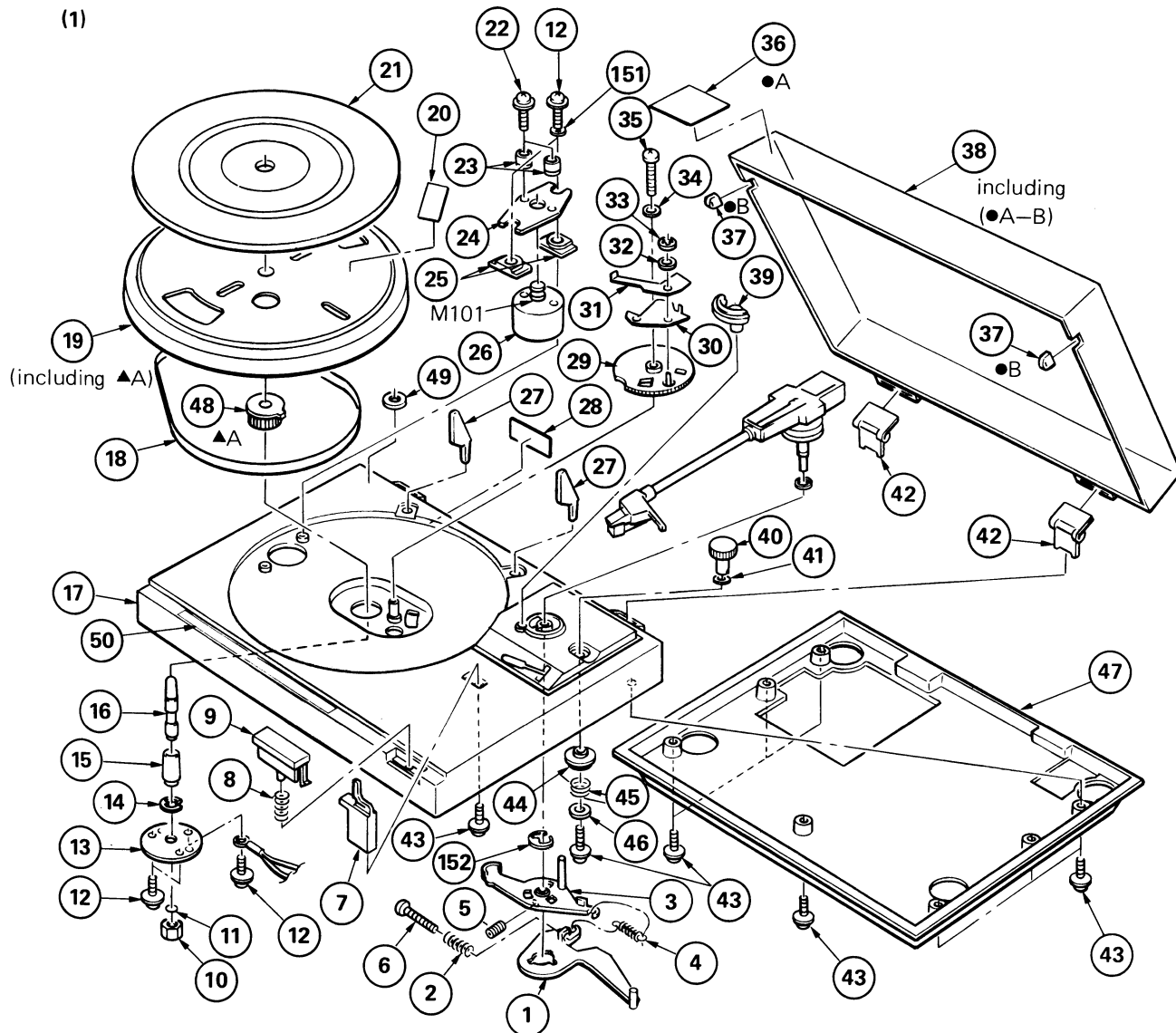
SECTION 5 EXPLODED VIEWS AND PARTS LIST

NOTE:

The mechanical parts with no reference number in the exploded views are not supplied.

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

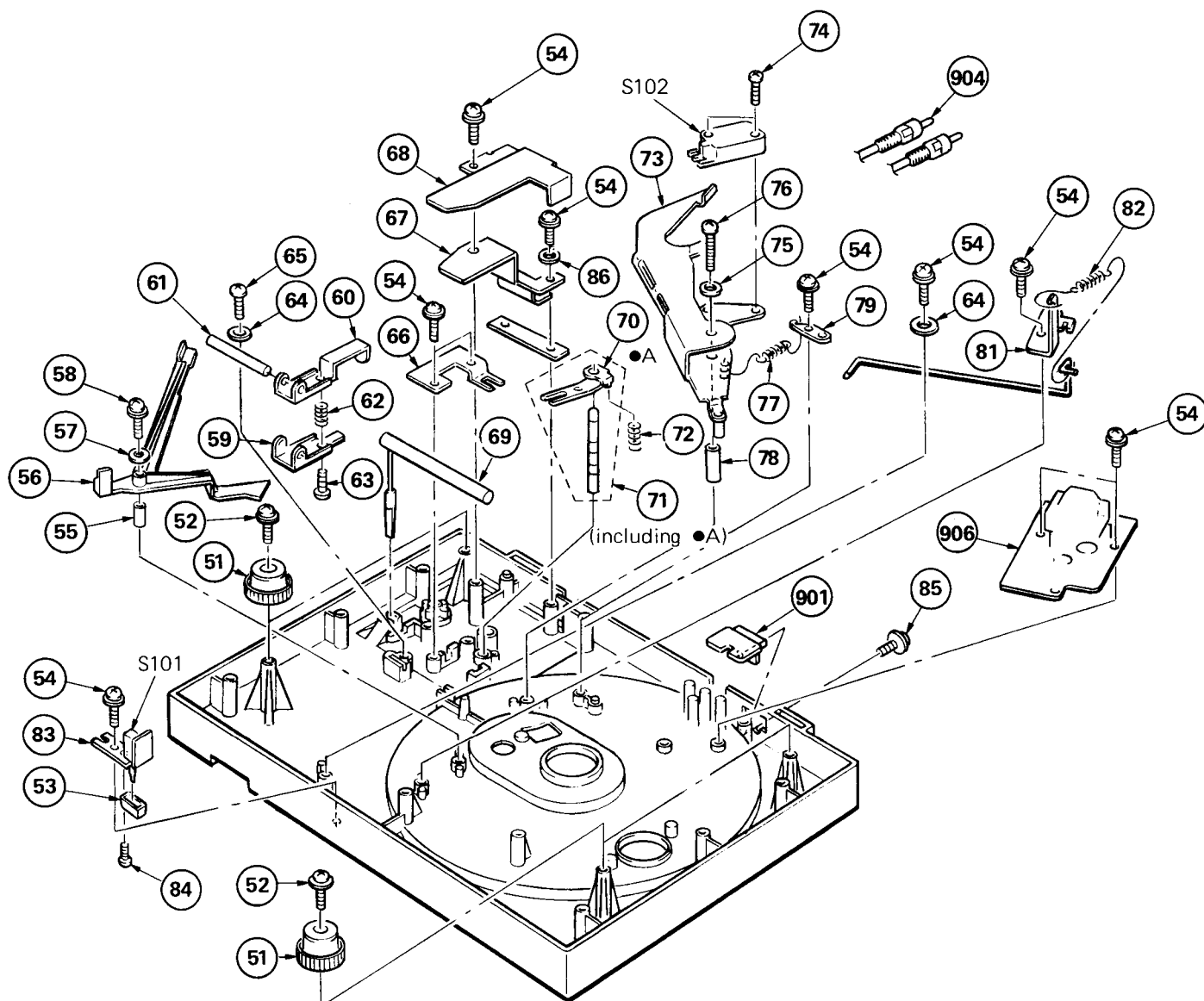
The construction parts of an assembled part are indicated with a collation number on the remark column.



No.	Part No.	Description	REMARKS
1	4-875-214-00	LEVER, SWITCH	
2	4-836-836-00	SPRING, COMPRESSION	
3	★4-858-234-00	LEVER, RETURN	
4	3-536-780-00	SPRING, TENSION	
5	3-701-508-00	SET SCREW, DOUBLE POINT 3X6	
6	7-682-553-09	SCREW +B 3X20	
7	4-875-208-00	(SILVER)...REST, ARM	
8	4-875-208-31	(BLACK)...REST, ARM	
9	3-533-014-00	SPRING, COMPRESSION	
10	4-881-608-00	(SILVER)...KNOB, REJECT	
11	4-881-608-11	(BLACK)...KNOB, REJECT	
12	4-908-104-01	NUT, BEARING	
13	4-908-141-01	RETAINER (S), THRUST	
14	3-703-137-00	SCREW, TAPPING	
15	4-908-101-01	HOLDER, BEARING	
16	7-624-133-34	STOP RING 8, TYPE-CE	
17	4-908-102-01	BEARING	
18	4-889-523-01	SHAFT, CENTER	
19	4-889-531-21	(SILVER)...FRAME	
20	4-889-531-31	(BLACK)...FRAME	
21	4-827-489-XX	BELT	
22	X-4881-615-1	TURNTABLE ASSY	
23	4-858-264-21	LABEL, CAUTION	
24	4-887-941-11	SHEET, TURNTABLE	
25	4-909-062-01	SCREW MOTOR	
26	4-909-061-01	CUSHION, MOTOR	
27	★4-908-106-01	BRACKET (B), MOTOR	

No.	Part No.	Description	REMARKS
28	4-908-120-01	RUBBER, FLOATING	
29	4-908-116-01	COVER, VIBRATION PROOF	
30	★4-889-514-01	LABEL, MODEL NUMBER	
31	4-903-339-01	GEAR, DRIVE	
32	X-4852-007-2	CLUTCH (B) ASSY	
33	4-852-013-05	CLUTCH (A)	
34	7-688-003-11	W 3, MIDDLE	
35	7-624-190-81	STOP RING 2, TYPE-CS	
36	4-812-554-00	WASHER	
37	7-685-152-14	SCREW +P 3X25 TYPE2 SLIT	
38	★3-703-705-01	STICKER, SONY SYMBOL (30)	
39	4-876-304-00	CUSHION, DUST COVER	
40	X-4877-804-0	COVER ASSY, DUST	
41	X-4903-302-1	PLATE ASSY, UP AND DOWN	
42	4-881-633-00	KNOB (I), IFC	
43	4-844-041-00	WASHER, (N)	
44	4-857-653-00	HINGE, DUST COVER	
45	3-703-136-00	SCREW, TAPPING	
46	4-903-323-01	CAM, IFC	
47	4-874-250-00	SPRING	
48	0-056-028-00	WASHER, PLAIN, 14 DIA.	
49	4-889-532-11	PLATE, BOTTOM	
50	4-868-052-00	GEAR, CENTER	
51	4-889-525-11	PANEL, CONTROL	
52	★4-301-647-00	WASHER, SPECIAL	
53	7-624-133-54	STOP RING 10, TYPE-CE	

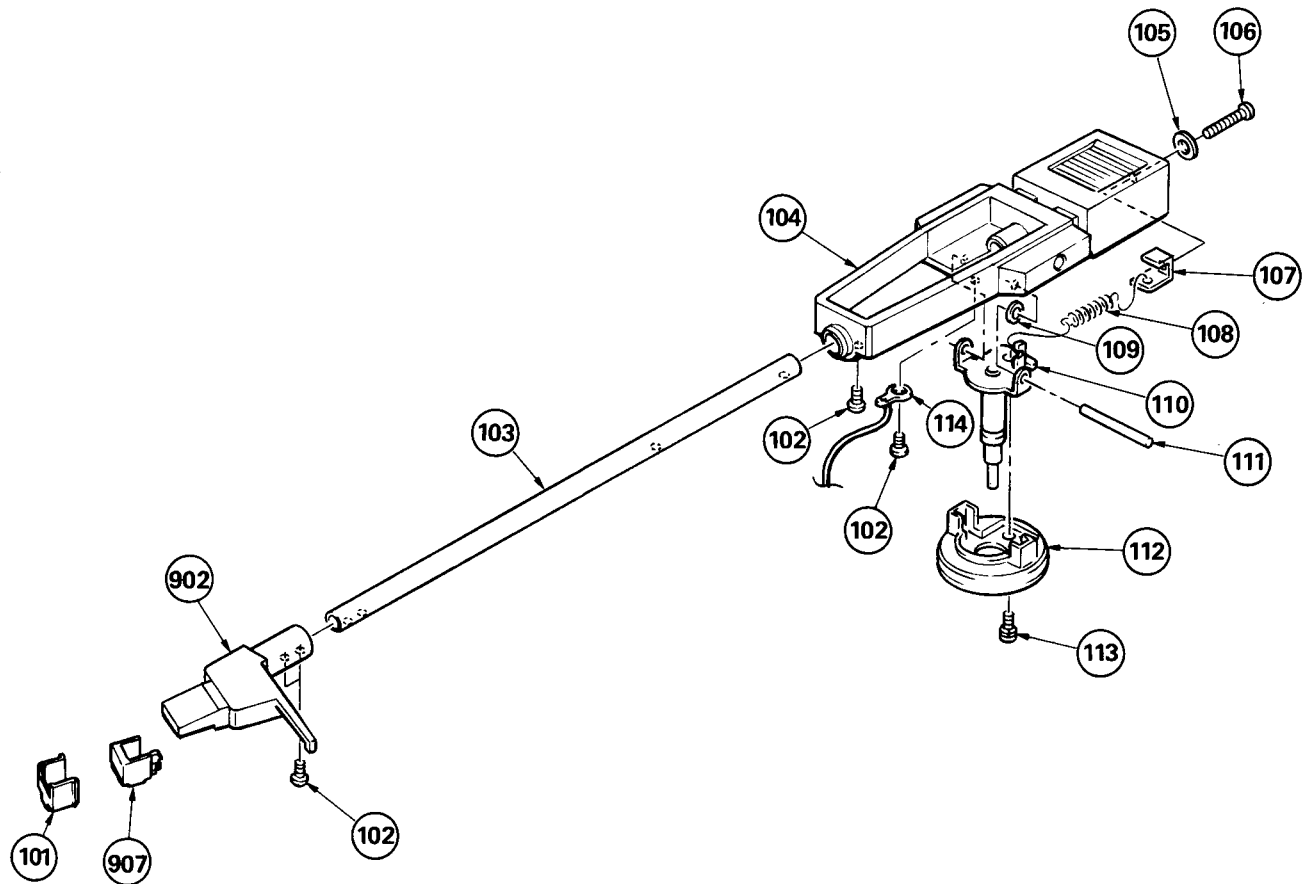
(2)



No.	Part No.	Description	REMARKS
51	X-4903-301-1	INSULATOR ASSY	
52	7-685-650-21	SCREW +BVTP 3X16 TYPE2 SLIT	
53	4-870-730-21	KNOB, SPEED	
54	3-703-137-00	SCREW, TAPPING	
55	4-861-933-00	SLEEVE (D)	
56	*4-858-240-00	LEVER (M), CLUTCH	
57	4-812-554-00	WASHER	
58	7-685-152-14	SCREW +P 3X25 TYPE2 SLIT	
59	*4-903-321-01	LEVER (G), LIFTER	
60	*4-903-317-01	LEVER (F), LIFTER	
61	*4-881-611-00	SHAFT, LEVER, LIFTER	
62	4-881-642-00	SPRING, COMPRESSION	
63	7-621-775-50	SCREW +B 2.6X10	
64	*4-301-647-00	WASHER, SPECIAL	
65	3-703-136-00	SCREW, TAPPING	
66	*4-903-320-01	RETAINER (D), LIFTER	
67	*4-889-524-01	PLATE (LOWER), SHIELD	
68	*4-889-526-01	PLATE (UPPER), SHIELD	
69	4-877-824-00	CAM, LIFTER	

No.	Part No.	Description	REMARKS
70	*4-876-317-00	GUIDE, LIFTER	
71	A-4637-063-A	ROD ASSY (P), PUSH	
72	4-903-331-01	SPRING (LIFTER), COMPRESSION	
73	*X-4877-805-6	LEVER ASSY, MAIN	
74	7-682-150-01	SCREW +P 3X12	
75	3-610-931-11	SPACER, SHAFT, DRUM, HEAD	
76	7-685-666-21	SCREW +BVTP 4X30 TYPE2 SLIT	
77	4-870-785-00	SPRING, TENSION (MAIN LEVER)	
78	4-875-207-00	SLEEVE	
79	*4-870-752-00	HOLDER, SPRING	
80	4-875-204-00	SPRING	
81	*4-875-205-00	PLATE, FIXED	
82	3-491-240-00	SPRING, TENSION	
83	*4-889-527-01	BRACKET, SWITCH	
84	7-621-775-08	SCREW +P 2.6X3	
85	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
901	1-562-067-00	SOCKET, CONNECTOR 5P	
904	1-551-294-00	CORD	
906	*1-614-796-11	PC BOARD, SYSTEM CONTROL	
86	7-623-422-07	WASHER 3φ	

(3)



No.	Part No.	Description	REMARKS	No.	Part No.	Description	REMARKS
101	3-706-613-00	PROTECTOR		109	3-701-437-01	WASHER	
102	7-685-103-24	(SILVER)...SCREW +P 2X5 TYPE2 SLIT		110	X-4881-605-1	SHAFT ASSY, ROTARY	
	7-685-103-29	(BLACK)...SCREW +P 2X5 TYPE2 SLIT		111	4-880-619-00	PIN, HORIZONTAL	
103	4-889-528-01	(SILVER)...PIPE, ARM		112	4-880-631-00	(SILVER)...JOINT, CENTER	
	4-889-528-11	(BLACK)...PIPE, ARM			4-880-631-11	(BLACK)...JOINT, CENTER	
104	4-889-529-01	(SILVER)...JOINT, PIPE		113	7-682-647-01	(SILVER)...SCREW +PS 3X6	
	4-889-529-11	(BLACK)...JOINT, PIPE			7-682-647-09	(BLACK)...SCREW +PS 3X6	
105	7-688-003-11	W 3, MIDDLE		114	7-623-505-01	LUG, 2	
106	7-682-555-04	(SILVER)...SCREW +B 3X30		902	1-549-109-00	(SILVER)...CARTRIDGE(WITH SHELL)(VL-42G)	
	7-682-555-09	(BLACK)...SCREW +B 3X30			1-549-109-21	(BLACK)...CARTRIDGE(WITH SHELL)(VL-42G)	
107	4-868-016-00	HOOK, SPRING		907	1-549-112-00	STYLUS (ND-142G)	
108	4-889-510-00	SPRING, TENSION					

SECTION 6

ELECTRICAL PARTS LIST

NOTE:

Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF:μF, PF:μF.

RESISTORS

• All resistors are in ohms.
• F : nonflammable

COILS


• MMH : mH, UH : μH


SEMICONDUCTORS

In each case, U : μ, for example:

UA...: μA..., UPA...: μPA..., UPC...: μPC,

UPD...: μPD...

The components identified by shading and mark  are critical for safety. Replace only with part number specified.

Les composants identifiés par une trame et une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

ELECTRICAL PARTS

No.	Part No.	Description
901	1-562-067-00	SOCKET, CONNECTOR 5P
902	1-549-109-00	(SILVER)...CARTRIDGE(WITH SHELL)(VL-42G)
	1-549-109-21	(BLACK)...CARTRIDGE(WITH SHELL)(VL-42G)
903	1-557-042-11	(RED)....LEAD (WITH TERMINAL)
	1-557-042-21	(GREEN)...LEAD (WITH TERMINAL)
	1-557-042-31	(BLUE)...LEAD (WITH TERMINAL)
	1-557-042-41	(WHITE)...LEAD (WITH TERMINAL)
904	1-551-294-00	CORD
905	*1-535-117-00	TERMINAL
906	*1-614-796-11	PC BOARD, SYSTEM CONTROL
907	1-549-112-00	STYLUS (NO-142G)
C101	1-123-348-00	ELECT 470MF 20% 35V
C102	1-123-380-00	ELECT 1MF 20% 50V
C103	1-123-309-00	ELECT 330MF 20% 10V
C104	1-123-356-00	ELECT 10MF 20% 16V
C106	1-123-333-00	ELECT 100MF 20% 25V
D101	8-719-510-01	DIODE 1SRBA10
D102	8-719-107-94	DIODE 1SS202-1
IC101	8-759-103-35	IC UPC1470H
M101	8-835-126-01	MOTOR, DC (DNR-7600A)
Q101	8-759-170-12	IC UPC78M12H
R101	★ 1-212-970-51	FUSIBLE 33 5% 1/2W F
R102	1-214-723-00	METAL 560 1% 1/4W
R103	1-214-721-00	METAL 470 1% 1/4W
R104	1-214-729-00	METAL 1K 1% 1/4W
RV101	1-226-232-00	RES, ADJ, CARBON 500
RV102	1-226-232-00	RES, ADJ, CARBON 500
S101	1-570-166-11	SWITCH, PUSH (1 KEY)
S102	1-570-149-11	SWITCH, MICRO

